Environmental Information Exchange Network

William Sonntag, U.S. EPA

Chief of Staff

Office of Environmental Information

March 13, 2003

Objectives

- Environmental information trends and challenges
- Overview of State/EPA information management partnership
- Principles and concepts of the Exchange Network

State/EPA Information Trends

- High demand for access to environmental information among partners
- Current stove-pipe approaches to information exchanges are inefficient and burdensome
- States modernizing information systems and migrating away from use of EPA national systems
- Use of integrated information technologies and approaches is on the rise

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States and EPA Partner to Address Trends and Challenges

- States and EPA were dealing with issues in a splintered and non-cohesive manner
- The State/EPA Information Management Workgroup (IMWG) formed in 1998
- IMWG priority issues:
  - Use information technology to increase the effectiveness of environmental management programs internally
  - Improve access
  - Share and use information efficiently and effectively

State/EPA Shared Vision

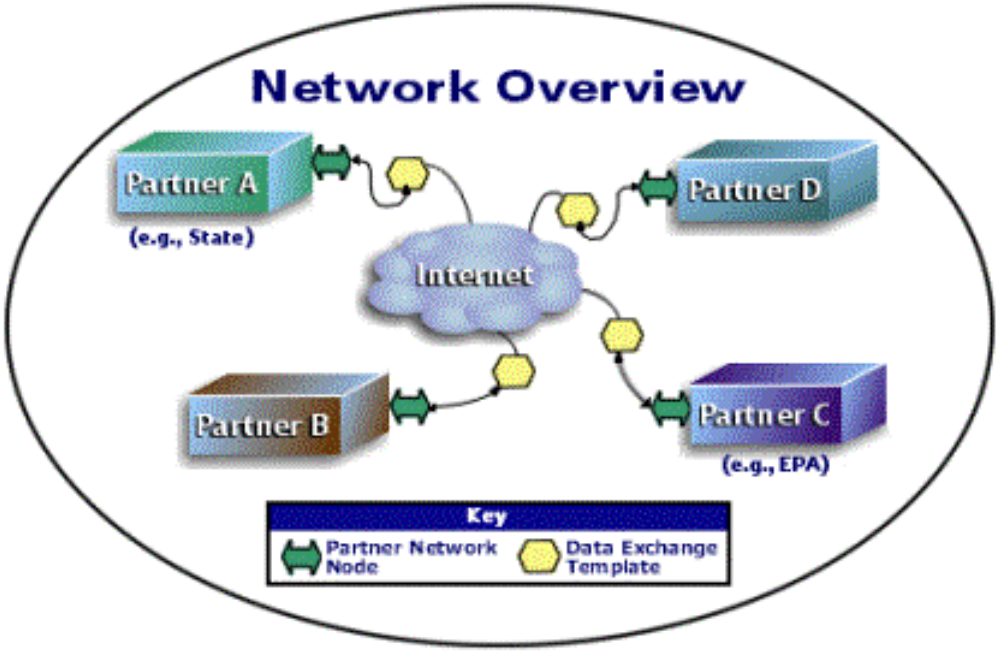
The States and EPA are committed to a partnership to build locally and nationally accessible, cohesive and coherent environmental information systems that will ensure that both the public and regulators have access to the information needed to document environmental performance, understand environmental conditions, and make sound decisions that ensure environmental protection.

IMWG Develops Exchange Network

The IMWG focused on the issue of "how" data is exchanged between partners (states, EPA, local, industry, other agencies)

- June 2000 – IMWG prepared "*Shared Expectations of the State/EPA Information Management Workgroup for a National Environmental Information Exchange Network (the Network)"*
- July 2000 – IMWG chartered a Network Blueprint Team to prepare the conceptual design for the Network
- October 2000 – IMWG Blueprint Team Initial Report describes the Exchange Network Concepts
- February 2001 - IMWG Blueprint Team Update and commissioning of an Interim Network Steering Group to develop Implementation Plan
- 2002 Exchange Network Implementation plan finalized
- 2002 Network Steering Board (NSB) chartered to implement the Exchange Network

What is the Exchange Network?



An Internet and standards-based method for exchanging environmental information between partners.

Exchange Network Foundations

- Data standards
- Partners agree on exchange data type, frequency, and method
  - Trading Partner Agreements
  - Registered XML schema
  - Partners exchange data over a secure network via each partner's data transfer point, or "Node"

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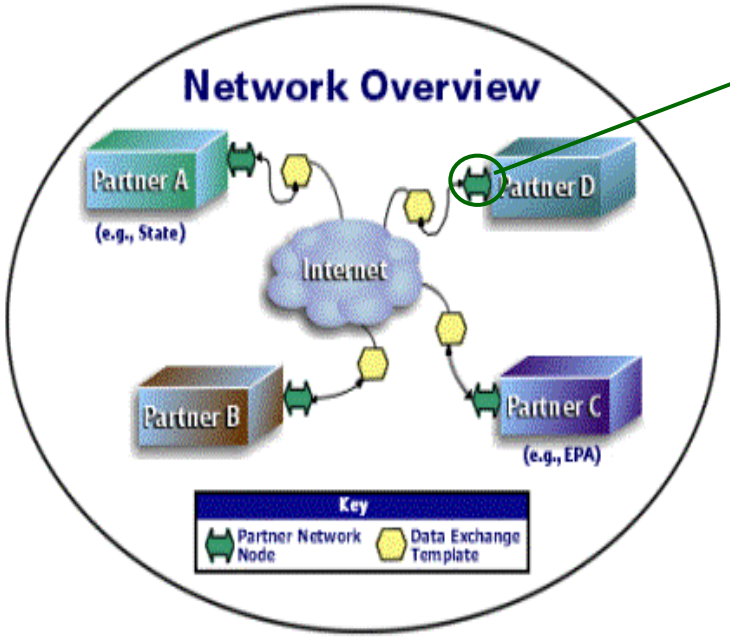
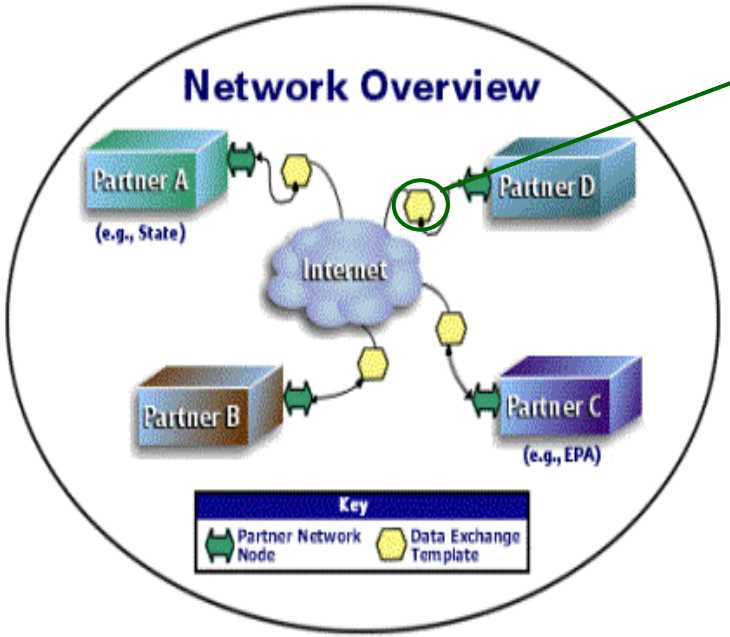
Data Transfer Nodes (Web Services)



- Nodes
  - Hardware and software used to exchange information on the Network
  - Use the Internet, a set of protocols, and appropriate security to respond to authorized requests for information
  - Send the requested information in a standard format, XML
  - Each partner has only one Node

Data Exchange Templates/ XML Schema



- Data Exchange Templates
  - Describe format of data being exchanged
  - Consist of XML schema
  - Draw upon data standards
  - Potential to reuse XML schema modules

Schema are developed for each exchange type (e.g., Discharge Monitoring Report data)

Trading Partner Agreements (TPAs)

- TPAs are made between exchange partners (e.g., State and EPA)
- Identify data exchange frequency
- Identify exact data types/fields exchanged
- Uses XML schema

TRADING PARTNER AGREEMENT

Between the Nebraska Department of Environmental Quality hereinafter referred to as NDEQ and the U.S. Environmental Protection Agency Region VII acting as a representative for the U.S. Environmental Protection Agency and hereinafter referred to as EPA for their participation in sharing data as part of the Facility Identification Integration Activities. The use of the term Agency will refer to both partners.

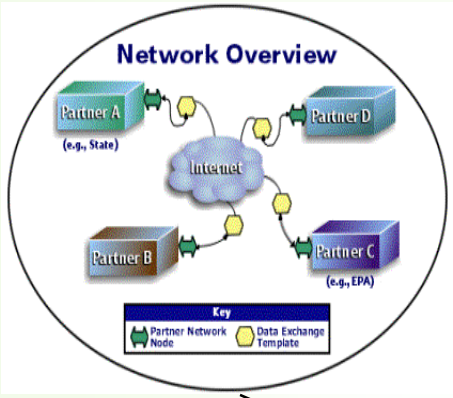
I. PURPOSE

The purpose of this Trading Partner Agreement (TPA) is to identify the activities that NDEQ and EPA will undertake as partners of the Facility Identification Integration Activities. As partners, each will work cooperatively to implement an exchange of facility identification data pertaining to Nebraska sites/facilities for incorporation into the Nebraska Integrated Information System(IIS) and the EPA Facility Registry System(FRS). Each partner will provide internet access to the data, making it available for use by each partner, businesses, interest groups, and the public in general.

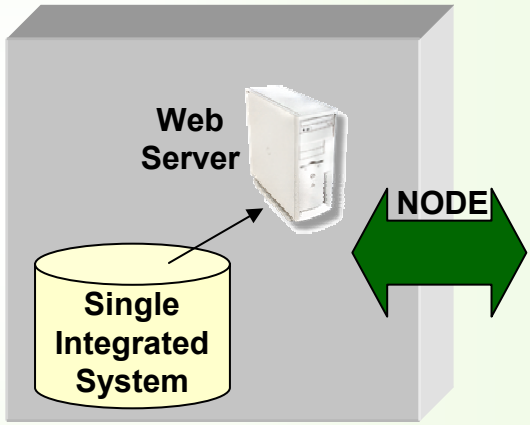
II. BACKGROUND

The partners represent Federal and State Government whose responsibilities in general are for the protection of the environment. As part of their responsibilities, the partners collect and maintain data to support their agency's environmental program interest activities. The consistent identification of facilities within each agency and between agencies is key to the proper use of other data collected by agency environmental programs. It ensures that NDEQ and EPA recognize the same universe of regulated facilities in Nebraska and how these facilities relate to environmental program interests, and their associated data.

How the pieces fit together

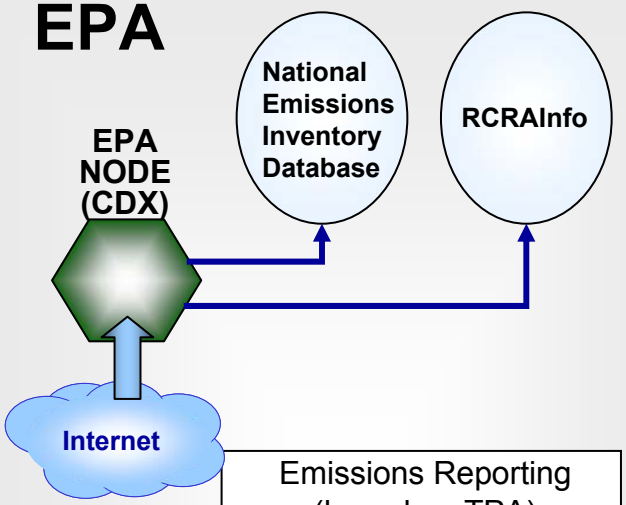


State Environmental Department



State systems may or may not be integrated.

EPA



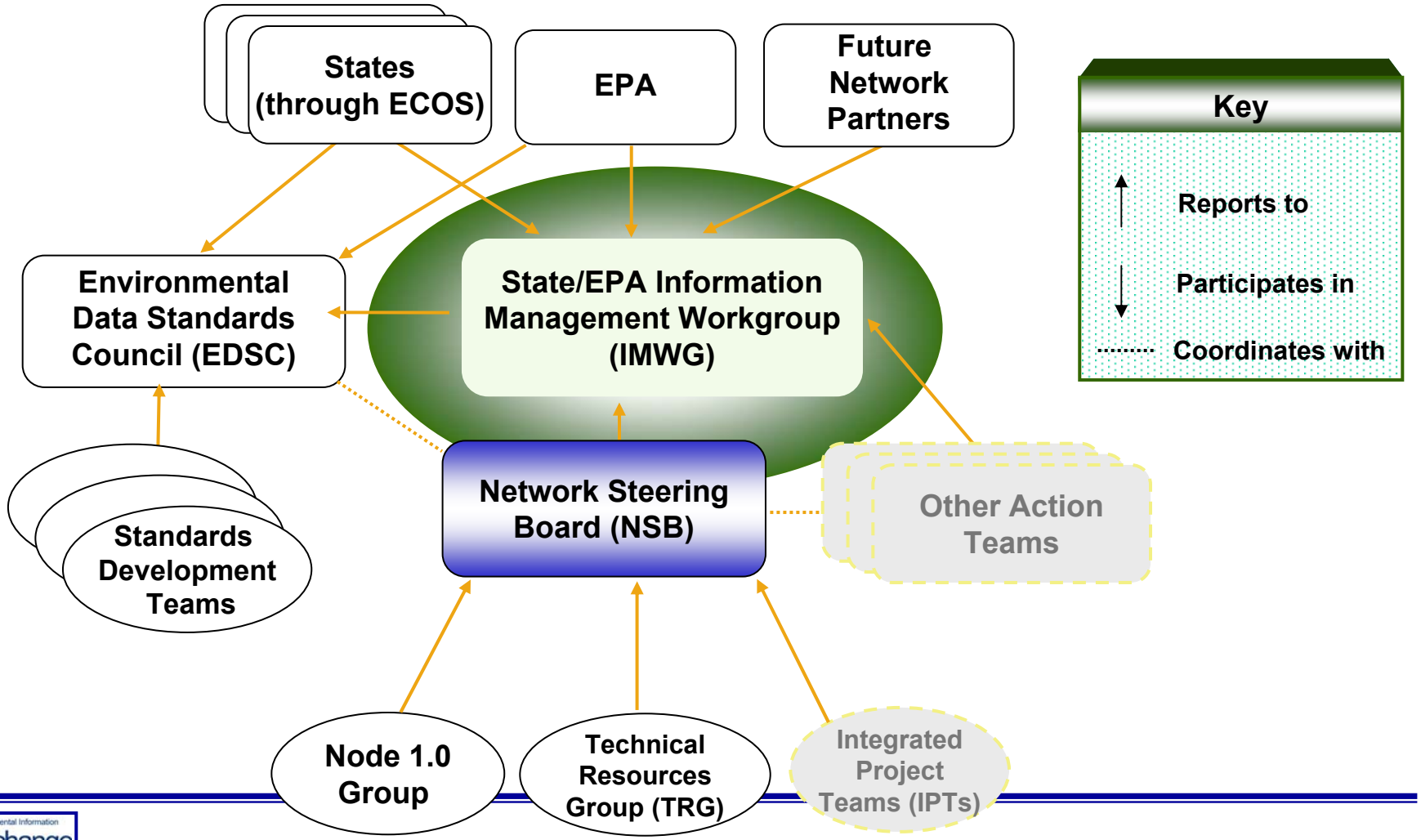
Emissions Reporting (based on TPA)

<Emissions Inventory Report>
<Site Information>
<Facility #><location>
<Chemical Info>
<limit><.88ppm>

RCRAInfo Reporting (based on TPA)

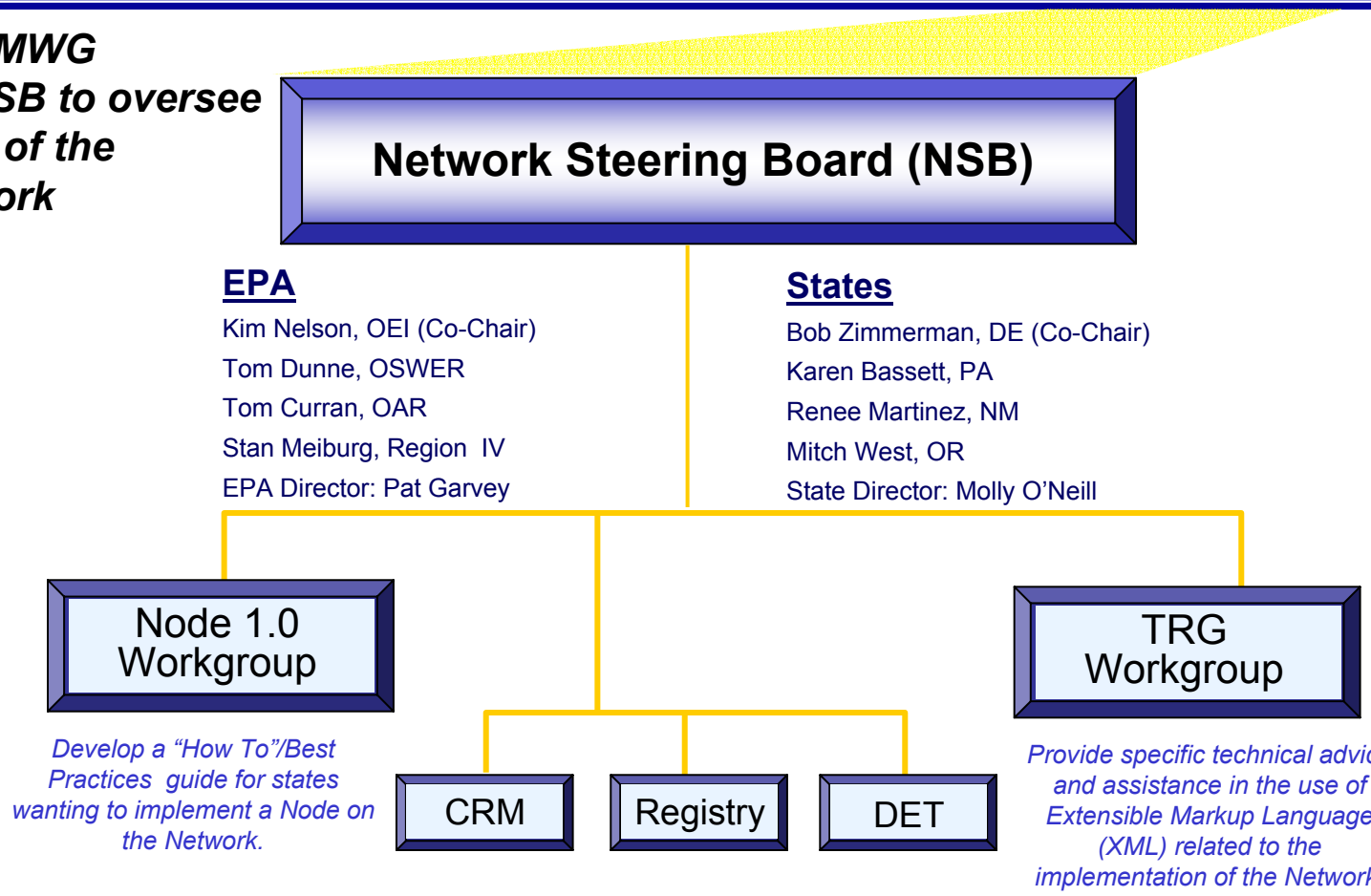
<RCRA Facility Status Report>
<Site Information>
<Facility #><location>
<Status Code>

Organizational Relationships



NSB Management Organization

The State/EPA IMWG chartered the NSB to oversee implementation of the Exchange Network



NSB Responsibilities

- Develop and maintain a registry for DETs/Schema
- Develop Network specifications, guidance, and best practices
- Provide technical assistance
- Provide communication and outreach
- Provide overall management and oversight of the Exchange Network implementation

What Kind of Data or Information Exchanged?

- Driven by partners
- EPA/State environmental partners to establish data flows for all reporting data (e.g, PCS data)

There are three types of data flows identified

- Type 1: State-EPA Regulatory (e.g., PCS data flow)
- Type 2: Routine bilateral
- Type 3: Ad hoc or interactive flows

Type 1 Data Flow Priorities

Type 1 data flows are from state environmental department databases to EPA databases.

States can begin exchanging data with EPA with approved schema.

Status of DET/Schema	Regulatory Flow
Completed	Facility Registry System (FRS) National Emissions Inventory (NEI)System
In Progress	RCRAInfo Air Quality System (AQS) Storage and Retrieval System (STORET) Permit Compliance System (PCS)

Benefits

- Delivers timely reliable, standardized, and consistent data between partners
- Reduces reporting burden
  - States will no longer be required to “feed” EPA national systems that are often inconsistent with business needs or technologies
- Enhances potential for data integration

Benefits (continued)

- Sets the stage for the broader exchange of information
  - Between and amongst other State and/or federal agencies (e.g., environment and health departments)

Changing Roles!

- States assume increased data stewardship responsibilities
- States and EPA collaborate to develop data/transaction standards and Trading Partner Agreements
- EPA has responsibility for getting data into its own program systems
- States have responsibility to map internal system data to Data Exchange Templates or schema

Technical Materials Available @ www.exchangenetwork.net

- XML Design Rules
- Core Reference Model
- Node v1.0 Guidance
- Node Functional Specs & WSDL Files
- Network Protocol Document
- Node Implementation Guide
- XML Schemas on Registry

Contacts

Pat Garvey

U.S. EPA - Office of Environmental Information

(202) 566-1687

garvey.pat@epa.gov

Molly O'Neill

Environmental Council of the States

(202) 624-3507

moneill@sso.org

www.exchangenetwork.net